REMARKS

Overview of the Office Action

Claims 2-4, 6-8, 10-13, 15, 20, 21, 29, and 31 have been rejected under 35 U.S.C. §102(e) as anticipated by U.S. Patent Appl. Pub. No. 2003/0135486 ("Edlund").

Claims 8, 9, 15-20, 22-25, and 31 have been rejected under 35 U.S.C. §102(e) as anticipated over U.S. Patent Appl. Pub. No. 2005/0065714 ("Haseloff").

Claims 5 and 14 have been rejected under 35 U.S.C. §103(a) as unpatentable over Haseloff.

Claims 26-28 and 32 have been rejected under 35 U.S.C. §103(a) as unpatentable over Haseloff in view of U.S. Patent No. 6,377,210 ("Moore").

Status of the claims

Claim 1 has been previously canceled.

Claims 20 and 31 have been amended.

Claims 2-32 remain pending.

Summary of subject matter disclosed in the specification

The following descriptive details are based on the specification. They are provided only for the convenience of the Examiner as part of the discussion presented herein, and are not intended to argue limitations, which are unclaimed.

Applicant's specification discloses a method and apparatus for taking, transmitting, storing, processing, distributing and using data indicative of the position of a mobile object on the Earth's surface. More specifically, the latitude, longitude, and altitude for a current position

of a mobile object is measured, and the data for that position is periodically transmitted along with ancillary information to a central base station for persistent storage of the data in a server. Such stored data is thus available on past and current positions of the mobile object for use by various computer applications to derive information about the object's movements.

Descriptive summary of Edlund

Edlund discloses performing an analysis of a history of previous location reports received from a tracked entity. The analysis is utilized to estimate the relevance of future location reports over time. This is accomplished via associating a computed expiration time with each location report, wherein the expiration time is used by an application to estimate the relevance degradation of a location report over time. Thus, the expiration time value acts as a threshold that controls the shape of a relevance degradation curve of a location report.

Descriptive summary of Haseloff

Haseloff discloses a method for supplying a program-aided information system with specific location information. The information system provides at least one selection of certain location-dependent information on the basis of a person-specific or object-specific location, which is detectable by a sensor. The method includes detecting positional data for a person-specific or object-specific location by a sensor, and transforming the sensor-detected positional data into a location representing form. The form is associated with a reference system, within which the positional data can be spatially attributed, as well as associated with a hierarchical structure. The method further includes combining the location representing forms in a location set and/or in a form of positional vectors in which the positional data of at least two locations are

linked in a prescribed order, and/or forming location relations and/or positional vector relations between the locations, persons or objects within positioned location sets, and applying operations for determining the matching of locations as a basis of generating or providing location-dependent person-specific or object-specific information.

Claims 2-4, 6-8, 10-13, 15, 20, 21, 29, and 31 are allowable over Edlund under 35 U.S.C. §102(e)

The Office Action states that Edlund teaches all of Applicant's recited elements.

Claim 20 has been amended to recite "a method for providing information about movement of a mobile object to each of a plurality of positions along the Earth's surface, comprising: obtaining position data related to each of the plurality of positions of the mobile object; and partitioning the position data for the plurality of positions of the mobile object into a plurality of clusters of related positions that are accessible to provide information about movement of the mobile object in response to a request".

Edlund fails to teach or suggest, "a method for providing information about movement of a mobile object to each of a plurality of positions", and "partitioning the position data for the plurality of positions of the mobile object into a plurality of clusters of related positions that are accessible to provide information about movement of the mobile object in response to a request", as recited in Applicant's independent claim 20.

The system taught by Edlund is a location tracking system that analyzes the history of previous location reports received from a tracked entity and uses this history to estimate the relevance of future reports over time (see paragraph [0022] of Edlund).

The system of Edlund analyzes location data obtained from positioning modules, clusters

the location data into one or more categories, and identifies idle times associated with each of these clusters. Based upon the analysis, the system of Edlund conserves communication bandwidth by not pulling data from the positioning modules during the identified idle times. The identified idle times of Edlund are associated with a threshold that dictates the degradation in the relevance of a location report over time (see paragraph [0024] of Edlund). Thus, the system of Edlund does not teach a system or method for providing information about movement of a mobile object to each of a plurality of positions along the Earth's surface, as recited in Applicant's claim 20. Instead, system of Edlund estimates the temporal validity of location reports. No information about the actual movement of a mobile object is provided by the system taught by Edlund.

The Examiner cites paragraph [0025] of Edlund as teaching partitioning the position data for the plurality of positions into a plurality of clusters of related positions that are accessible to provide information in response to a request. Applicant submits that Edlund has been misinterpreted.

The cited passages of Edlund read, "The location tracking system (which, in one embodiment, is located on a server) of the present invention periodically receives tracking information from a number of tracked entities and stores such information in a database where historical records are maintained. The historical records or location data (latitude and longitude) for a single tracked entity is used as inputs to a clustering algorithm, which in turn associates each record with one out of N clusters (i.e., classification). The clustering of the data identifies location where the tracked entity is frequently visiting. There are several different techniques for clustering data and for selecting an optimal number of clusters N. When the data has been partitioned into clusters, a time interval analysis is performed on each cluster."

The cited passages of Edlund simply teach that the system periodically receives tracking data, creates clusters associated with where the tracked entity frequently visits, and performs a time interval analysis on each cluster. Nothing in the cited passages of Edlund teach or suggest, "partitioning the position data for the plurality of positions of the mobile object into a plurality of clusters of related positions that are accessible to provide information about movement of the mobile object in response to a request", as recited in Applicant's independent claim 20. The clusters of Edlund are not accessible in response to a request.

In contrast to Edlund, Applicant's independent claim 20 recites, "partitioning the position data for the plurality of positions of the mobile object into a plurality of clusters of related positions that are accessible to provide information about movement of the mobile object in response to a request". In other words, according to Applicant's invention, after obtaining raw position data, the raw position data is converted into clusters and stored in a database (see paragraph [0071] of Applicant's published specification). The clusters of Applicant's recited invention are accessed in the database in response to a request, such as a location, distance, history, or map request, for example (see paragraphs [0084], [0087], [0091], and [0098], and Fig. 2 of Applicant's published specification). Edlund fails to teach or suggest accessing clusters in a database in response to such a request.

Therefore, Edlund clearly fails to teach or suggest "partitioning the position data for the plurality of positions of the mobile object into a plurality of clusters of related positions that are accessible to provide information about movement of the mobile object in response to a request", as recited in Applicant's independent claim 20.

In view of the foregoing, it is clear that Edlund does not teach or suggest the subject matter recited in Applicant's independent claim 20. Accordingly, claim 20 is patentable over

Edlund under 35 U.S.C. §102(e).

Claim 31 has been amended to recite limitations similar to claim 20 and is, therefore, patentable over Edlund for reasons discussed above with respect to independent claim 20.

Dependent claims

Claims 2-4, 6-8, 10-13, 15, 21, and 29, which depend from independent claims 20 and 31, incorporate all of the limitations of the corresponding independent claim and are, therefore, deemed to be patentably distinct over Edlund for at least those reasons discussed above with respect to independent claims 20 and 31.

Claims 8, 9, 15-20, 22-25, and 31 are allowable over Haseloff under 35 U.S.C. §102(e)

The Office Action states that Haseloff teaches all of Applicant's recited elements.

Haseloff fails to teach or suggest "partitioning the position data for the plurality of positions of the mobile object into a plurality of clusters of related positions that are accessible to provide information about movement of the mobile object in response to a request", as recited in Applicant's independent claim 20.

As described above, Haseloff teaches a method for supplying a program-aided information system with specific location information. The information system of Haseloff provides at least one selection of certain location-dependent information on the basis of a person-specific or object-specific location, which is detectable by a sensor.

The Examiner cites paragraph [0024] of Haseloff as teaching partitioning the position data for the plurality of positions into a plurality of clusters of related positions that are accessible to provide information in response to a request. Applicant submits that Haseloff has

been misinterpreted.

The cited passages of Haseloff read:

> "The invented process has already been successfully implemented in a trial model in a platform for providing person-specific traffic information. In this platform, the registered users are informed on the basis of the current traffic situation as they start out on a planned trip in order for them to arrive at a given destination at a given time taking into account buffer times between receiving the information and the time of departure as well as the user's preferred routes. Moreover, the user can also be provided with current information while driving with regard to the traffic situation on the route, possible traffic congestion and alternative routes based on where the user happens to be at the time. In this example, there is a location-based information request which says that a user would like to receive current congestion information for his route and his destination when he is driving on the highway. This information request, therefore, contains positional information in the form of "on the highway". In order to satisfy this request, the user is located by sensors after setting out on his journey. These sensor systems give the user's current location in the form of Gauss-Kruger geo-coordinates. The traffic information itself is provided with positional data in the form of highway abbreviations in connection with exit abbreviations and highway junctions. The location model is responsible for the imaging, management and transformation of this positional data into their different forms. The positional data highway, Gauss-Kruger coordinates and highway or exit/highway abbreviations are imaged in positioned objects which each relate to a semantic reference system for transport lines, respectively geo-coordinates. The user's preferred routes are imaged as positional vectors on the edges of which the means of transport is given. Whether the coordinates that supply a locating procedure match with the location specifications of the requested information is determined by means of transformation algorithms. Furthermore, when this is the case, these coordinates are transformed into the location format in the traffic information."

The cited passages of Haseloff simply discuss a user requesting and receiving traffic information and alternative routes. Nowhere in the cited passages of Haseloff is it taught or suggested to partition the position data for the plurality of positions into a plurality of clusters of related positions that are accessible to provide information in response to a request.

Therefore, Haseloff clearly fails to teach or suggest "partitioning the position data for the plurality of positions of the mobile object into a plurality of clusters of related positions that are accessible to provide information about movement of the mobile object in response to a request",

as recited in Applicant's independent claim 20.

In view of the foregoing, it is clear that that Haseloff fails to teach or suggest the subject matter recited in Applicant's independent claim 20. Accordingly, independent claim 20 is patentable over Haseloff under 35 U.S.C. §102(e).

Claim 31 has been amended to recite limitation similar to claim 20 and is, therefore, patentable over Haseloff for reasons discussed above with respect to independent claim 20.

Dependent claims

Claims 8, 9, 15-19, and 22-25, which depend from independent claims 20 and 31, incorporate all of the limitations of the corresponding independent claim and are, therefore, deemed to be patentably distinct over Haseloff for at least those reasons discussed above with respect to independent claims 20 and 31.

Claims 5-14 are allowable over Haseloff under 35 U.S.C. §103(a)

The Office Action states that Haseloff teaches all of Applicant's recited elements.

Haseloff has been previously discussed and does not teach or suggest the subject matter recited in Applicant's independent claim 20.

Claims 5-14, which depend directly or indirectly from independent claim 20, incorporate all of the limitations of independent claim 20 and are therefore deemed to be patentably distinct over Haseloff for at least those reasons discussed above for independent claim 20.

Claims 26-28 and 32 are allowable over Haseloff and Moore under 35 U.S.C. §103(a)

The Office Action states that the combination of Haseloff and Moore, teaches all of Applicant's recited elements.

Haseloff has been previously discussed and does not teach or suggest the subject matter recited in Applicant's independent claims 20 and 31.

Because Haseloff does not teach or suggest the subject matter recited in Applicant's independent claims 20 and 31, and because Moore does not teach or suggest any elements of the independent claim that Haseloff is missing, the addition of Moore to the reference combination fails to remedy the non-obviousness of the claims.

Claims 26-28 and 32, which depend from independent claims 20 and 31, incorporate all of the limitations of the corresponding independent claim and are, therefore, deemed to be patentably distinct over Haseloff and Moore for at least those reasons discussed above with respect to independent claims 20 and 31.

Conclusion

In view of the foregoing, reconsideration and withdrawal of all rejections, and allowance of all pending claims is respectfully solicited.

Should the Examiner have any comments, questions, suggestions, or objections, the Examiner is respectfully requested to telephone the undersigned in order to facilitate reaching a resolution of any outstanding issues.

Respectfully submitted,

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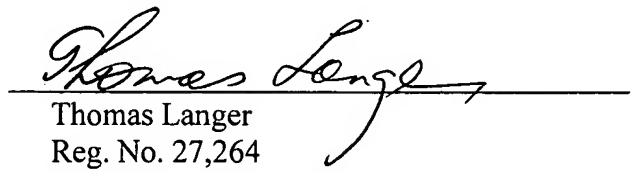
By 

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